Medical students' perceptions of using mobile phones for their English study

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Abstract. The authors conducted a needs analysis to investigate their medical students' needs and preferences for using mobile devices for their English study. The analysis showed the students' expectations of mobile learning were very high and two-thirds of them were interested in building medical English terminology through mobile learning. Then, the authors created mobile learning content designed mainly for helping their students review medical terminology. The content was delivered to 242 students twice a week during the period from July 2013 to January 2014. The authors then conducted a survey on their students' perceptions of the content delivered. It revealed that half of the students found the content useful for their English study and about two-thirds of them found the content level to be appropriate. However, the log analysis showed that only an average of 9.5 % of the students worked on the medical quizzes. This result suggests that achieving a high degree of student involvement in their autonomous mobile learning is difficult and it is necessary for teachers to further investigate ways to enhance students' motivation for mobile learning.

Keywords: mobile learning, English for Medicine, students' perceptions, ESP, motivation.

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How to cite this article: Iwata, J., Tamaki, Y., Shudong, W., Telloyan, J., Ajiki, Y., & Clayton, J. (2014). Medical students' perceptions of using mobile phones for their English study. In S. Jager, L. Bradley, E. J. Meima, & S. Thouësny (Eds), *CALL Design: Principles and Practice*; *Proceedings of the 2014 EUROCALL Conference, Groningen, The Netherlands* (pp. 172-178). Dublin: Research-publishing.net. doi:10.14705/rpnet.2014.000213

1. Introduction

Amidst the rapid progression of internationalization, English is becoming increasingly important for Japanese students to prepare for their future career. This is especially true of medical/nursing students due to growing demand for them to use English at conferences and/or workshops and increasing opportunities for them to communicate with other medical staff and patients in English. However, the curricula at medical schools in Japan are so extensive that the time allocated for English classes is quite limited. Therefore, language teachers at medical schools are expected to not only improve their English curricula, but also offer effective and attractive self-study courses and materials which help enhance students' independent and autonomous study.

Since 2007, the authors have been evaluating their current teaching practices and modifying the structure and content of their English classes by applying a blended-learning model using Moodle, a popular open source Learning Management System (Iwata, Tamaki, & Clayton, 2011). They have also started to design a range of self-study materials by using mobile devices, which are expected to be a useful tool for enhancing students' autonomous study (Bakay, Bulut, & Delialioglu, 2013). The authors' key goals for the use of mobile devices such as mobile phones, smart phones and tablets were firstly to give learners more opportunities to practice their medical English skills by providing them with ongoing access to a range of useful learning resources, and secondly to help enhance student's learner autonomy by using mobile devices.

2. Students' needs and preferences for mobile learning

The authors conducted a needs analysis in July 2013 to investigate their medical students' needs and preference for using mobile devices for their English study by asking the following three questions:

- Have you used your mobile device for study purposes?
- Do you think mobile learning will be effective?
- What topics would you like to study with your mobile devices?

The results obtained from Questions (1) and (2) indicate that 59.6% students have used mobile devices for their study and 62.9% students expected mobile learning to be effective. The results from Question (3), as seen in Table 1, show that students prefer vocabulary building and one-third (35.0%) of the students would like to study medical terms.

Table 1. Preferred topics (*N*=242)

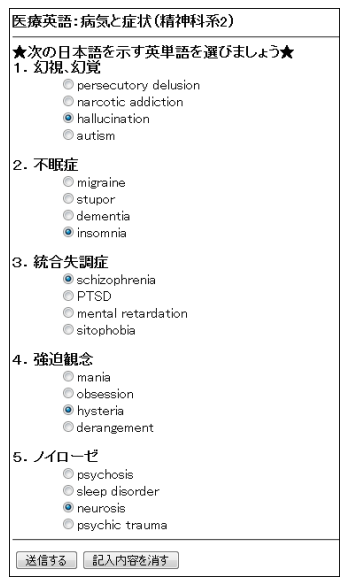
	number	%
General terms	163	67.9%
Medical terms	**84**	**35.0%**
TOEIC/ TOEFL exercise	67	27.9%
General conversation	59	24.6%
Medical conversation	**40**	**16.7%**
Grammar exercises	35	14.6%
Reading exercise	27	11.3%

3. Creating and delivering mobile learning content

3.1. Creating mobile learning content

The authors created a total of 54 mobile learning units for reviewing medical terminology in 2013, expecting the content would help students review medical vocabulary they had studied in class and enhance their self-study. Each unit consisted of 5 multiple-choice quizzes taken out of 1,000 basic medical terms including body parts, symptoms, abbreviations, prefixes and suffixes. Figure 1 shows a sample content for reviewing major terms related to psychiatry.

Figure 1. Quiz form



Students answered multiple-choice questions by clicking radio buttons on their mobile devices and then clicking a "Send" button. After that the feedback form including answers, points, and comments was shown as illustrated in Figure 2. The feedback was designed to be helpful and informative for students by giving detailed comments on each targeted term and other options.

Figure 2. Feedback

3.2. Delivering mobile learning content

The content created by the authors was delivered to a total of 242 recipients, most of whom were first-year medical and nursing students. All students were voluntary participants in the study of mobile learning. Details concerning content delivery are as follows.

(1) System: "InterCussion", web-based system (paid).

(2) Recipients: 242 medical and nursing students of Shimane University, Japan.

(3) Mobile devices students used: smart phones (78.8%), tablets (5.8%), mobile phones (5.0%), other devices (10.2%).

(4) Frequency: twice a week (Tuesdays and Fridays at noon).

(5) Duration: 7 months (July 2013 – January 2014).

4. Evaluation

The authors conducted a survey on their students' perceptions of the content delivered and 120 recipients answered the survey (response rate: 49.6%). It revealed that about half of the students found the content effective for their English study, as shown in Table 2. The majority of them found the difficulty level of the content appropriate, as shown in Table 3. With regard to the twice-a-week frequency of content delivery, 60.8% students thought it moderate and 21.8% students thought it was too often and that 'once-a- week' was more desirable.These results indicate that in general, learners seemed to think that the mobile learning content was effective and the frequency of delivery was appropriate. However, enhancing learner autonomy, one of the key drivers of this study of mobile learning, was still not successful as the number of the participants who actually tried the medical term quiz was quite low at only 9.5% on average, with 18.2% the maximum and 5.8% the minimum.

Table 2. Effectiveness (*N*=120)

	number	%
Very effective	**8**	**6.7%**
Effective	**46**	**38.3%**
Neither	37	30.8%
Not so effective	7	5.8%
Not effective at all	0	0 %

Table 3. Difficulty level (*N*=120)

	number	%
Too difficult	1	0.8%
A little difficult	28	23.3%
Appropriate	**75**	**62.5%**
A little easy	3	2.5%
Too easy	1	0.8 %

5. Discussion

While students' expectations of mobile learning were high, their readiness for mobile learning still seems to be low. This may suggest that achieving a high degree of student involvement will continue to be quite difficult no matter how much interest students demonstrate in mobile learning (Kwon, 2013).

The results from the evaluation of the mobile learning content left the authors two challenges to solve. Firstly, they need to modify the content and delivery system to better suit students' needs and preferences. Secondly, they need to investigate what factors affect learners' motivation and autonomy in mobile learning context and they need to seek ways to increase student's motivation for mobile learning.

6. Conclusions

The initial findings from the survey on medical students' needs and preferences of mobile learning indicate that most students were interested in studying English vocabulary with their mobile devices and they expected mobile learning to be effective for their English study. The survey results on students' evaluations of the content delivered show that the majority of them found the content effective for improving medical English language skills and the level of the content appropriate. However, the data analysis revealed that the students' actual use of the content was at a low level of 9.8% on average, which illustrates a need for further analysis.

The authors are conscious that further investigation on how their mobile learning content actually helps learners improve their medical English skills/knowledge and how the content helps them become motivated to study autonomously is required. However, the authors believe further practice of creating and delivering mobile learning content and development of measures for evaluating these practices would be valuable in monitoring the effectiveness of their mobile learning content and enhancing mobile learning for the purpose of teaching English for medicine.

Acknowledgements. This research was partially supported by the Ministry of Education, Science, Sports and Culture, Grant-in-Aid for Scientific Research (C), 24501189, 2012-2014.

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